

United States Patent and Trademark Office



UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,517 08/18/2003		Takafumi Nakagawa	402751/PALMO	1586
23548	7590 04/04/2005		EXAMINER	
LEYDIG VOIT & MAYER, LTD 700 THIRTEENTH ST. NW			DONOVAN, LINCOLN D	
SUITE 300			ART UNIT	PAPER NUMBER
WASHINGTO	ON, DC 20005-3960		2832	
			DATE MAILED: 04/04/2005	

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)				
	10/642,517	NAKAGAWA ET AL.				
Office Action Summary	Examiner	Art Unit				
	Lincoln Donovan	2832				
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply						
A SHORTENED STATUTORY PERIOD FOR REPL THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1. after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a rep If NO period for reply is specified above, the maximum statutory period Failure to reply within the set or extended period for reply will, by statute Any reply received by the Office later than three months after the mailin earned patent term adjustment. See 37 CFR 1.704(b).	136(a). In no event, however, may a reply be timely within the statutory minimum of thirty (30) days will apply and will expire SIX (6) MONTHS from the cause the application to become ABANDONE	nely filed s will be considered timely. the mailing date of this communication. D (35 U.S.C. § 133).				
Status		•				
1)⊠ Responsive to communication(s) filed on 20 E	December 2004					
	_					
· <u> </u>						
	closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.					
Disposition of Claims						
4) Claim(s) 1 and 3-19 is/are pending in the application. 4a) Of the above claim(s) 5,8-10,12 and 18 is/are withdrawn from consideration. 5) Claim(s) is/are allowed. 6) Claim(s) 1,3,4,6,7,11,13-17 and 19 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or election requirement.						
Application Papers						
9) The specification is objected to by the Examiner.						
10) The drawing(s) filed on [2-22] is/are: a) accepted or b) objected to by the Examiner.						
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).						
11) ☐ The oath or declaration is objected to by the Ex	xaminer. Note the attached Office	Action or form PTO-152.				
Priority under 35 U.S.C. § 119						
a) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of: 1. Certified copies of the priority document 2. Certified copies of the priority document 3. Copies of the certified copies of the prio application from the International Burea * See the attached detailed Office action for a list	ts have been received. ts have been received in Application rity documents have been receive tu (PCT Rule 17.2(a)).	on No d in this National Stage				
Attachment(s)	•					
1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413)						
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Da					
 Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12-20-04</u>. 	6) Other:	лен Аррисанон (РТО-102)				

DETAILED ACTION

Election/Restrictions

Claims 5, 8-10, 12 and 18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected embodiments. Applicant timely traversed the restriction (election) requirement in the reply filed on 12-20-04.

Applicant's election with traverse of the restriction in the reply filed on 12-20-04 is acknowledged. The traversal is on the ground(s) that some of the claims are generic and there are only six distinct embodiments. This is found persuasive. Group I, as redefined and elected by applicant to include claims 1, 3-4, 6-7, 11, 13-14, 15-17 and newly added claim 19, are examined on merit.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-4, 7, 11, 13-14, 15-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cereda et al. [US 6,084,492] in view of McKean et al. [US 6,009,615].

Regarding claims 1, 7, 14, 17 and 19, Cereda et al. disclose a magnetic actuator [figure 1] comprising:

- a first yoke [10];

Application/Control Number: 10/642,517

Art Unit: 2832

- a second yoke [20] affixed to the first yoke;

- at least one permanent magnet [6, 7] positioned within the yoke structure;

- an armature [3] located inside the first yoke and movable in reciprocating motion over a stroke between a first position and a second positions along a first direction; and

- a plurality of coils [4, 5] wherein a flux generated by the at least one of the coils passes through a first magnetic circuit including the armature and the first yoke to move the armature toward one of the first and second positions and a flux generated by the at least one permanent magnet passes through a second magnetic circuit including the at least one permanent magnet, the first and second yokes and the armature to hold the armature in one of the first and second positions [column 3, lines 30-43].

Cereda et al. disclose everything claimed except the yokes being formed of laminations.

McKean et al. discloses a bistable actuator [10] having a yoke and armature structure [12, 40] formed of laminations [figure 1].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a laminated yoke for the yoke structure of Cereda et al., as suggested by McKean et al., in order to optimize flux.

Regarding claim 3, Cereda et al. disclose the at least one permanent magnet located between the first and second yokes at an end surface of the second yoke facing the armature.

Regarding claims 4, 11, and 13 Cereda et al. disclose everything claimed except the specific dimensions of the air gaps, magnetomotive force of the coils and size of the armature.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the specific dimensions of the air gaps, magnetomotive force of the coils and size of the armature, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 15-16, Guery et al. further disclose the laminated armature having inner yokes, or end plates [31, 32], positioned inside of the end surfaces of the armature laminations [figure 1].

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cereda et al., as modified, as applied to claim 1 above, and further in view of Guery et al. [US 4,635,016].

Cereda et al., as modified, disclose everything claimed except the second yoke being perpendicular to the first yoke.

Guery et al. discloses an actuator [figure 2] having first and second yokes [25, 28] perpendicular relative to each other.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the yoke arrangement of Guery et al. for the yokes of Cereda et al., as modified, in order to channel the flux about the armature.

Conclusion

Art Unit: 2832

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lincoln Donovan whose telephone number is 571-272-1988. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Enad Elvin can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ldd